



Gastrointestinal parasites of Lamas in the Bolivian Andes

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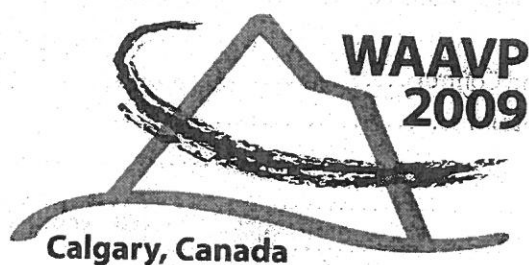
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Abstract Volume



also to be participating in the syndrome somehow. Other proposed causes include environmental change-related stresses, malnutrition and pesticides or management. It has also been suggested that it may be due to a combination of many factors and that no single factor is the cause.

BDS was first detected in Spain around 2003 as well as a high *Nosema ceranae* prevalence and adverse effects on bee survival. But in recent years an increasing *Varroa destructor* prevalence has been observed in healthy and depopulated hives. Data are presented to establish relationships between different factors analysed by way of a National epidemiological survey and biannual sampling procedure of randomly selected hives. Data are compared with samples sent to a National Diagnostic Laboratory where the detection of *Varroa* positive hives had been enhanced two or three times in the last years. National political measures are also analysed and possible repercussions on re-emergence of the mite discussed.

PO1.61

Combined Angiostrongylosis and Crenosomosis in a Dutch Dog

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In 2008 a survey showed that *Angiostrongylus vasorum* infections in dogs are endemic in the Netherlands. This case study emphasizes the fact that angiostrongylosis is an endemic disease in the Dutch dog population and one should be aware of double infections with *Crenosoma vulpis*.

A Bull-Terrier, with no history of traveling abroad to an endemic area, was presented at a clinic showing severe coughing which, despite a therapy with antibiotics, and subsequent heart medication, got worse over time. After two months the dog was referred to the University Clinic. A bronchoalveolar lavage was performed and a fecal sample was analyzed using the Baermann technique. Both methods resulted in the detection of larvae of *Angiostrongylus vasorum* and *Crenosoma vulpis*. An adult male of *Crenosoma vulpis* was present in the lavage fluid.

Slugs (e.g. *Arion* spp.) being the intermediate hosts for these nematodes, and foxes, the probable reservoir of both parasites in the Netherlands, make these double infections explainable and to be expected in other cases. In the mentioned survey no double infections were detected, so these double infections will probably occur in very small numbers.

For epidemiological reasons, the use of the Baermann technique is recommended as this can provide the most complete diagnosis of the causative agents of lungworm diseases.

Following the reporting of angiostrongylosis being an endemic disease, the growing alertness amongst veterinary clinicians in the Netherlands has resulted in an increased submission of samples for the detection of *Angiostrongylus vasorum* in Dutch dogs.

PO1.62

Gastrointestinal Parasites of Lamas in the Bolivian Andes

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A cross sectional study was conducted to determine prevalences and intensities of gastrointestinal (GIT) parasites in lamas in the Bolivian Andes. A quantitative and qualitative necro-copro-parasitological study was performed on 33 lamas between October and December 2007. At the time of necropsy the lamas were aged 1 to >4 years. They originated from 14 different farms in the most lama dense areas of Bolivia: Oruro, Potosi, La Paz and the highlands above Cochabamba. In total 16 different species of nematodes, one cestode species, one trematode species, and one coccidian genus were detected (prevalences in brackets):

In C3 (third stomach compartment): *Camelostomylus mentulatus* (33 %), *Haemonchus contortus* (15 %), *Graphinema aucheniae* (12 %), *Marshallagia occidentalis* (6 %), *Ostertagia ostertagi* (12 %); in the small intestine: *Lamanema chavezii* (64 %), *Nematodirus spathiger* (55 %), *Nematodirus lamae* (12 %), *Nematodirus abnormalis* (15 %), *Cooperia onchophora* (9 %), *Cooperia surnabada* (3 %), *Trichostrongylus colubiformis* (6 %), *Trichostrongylus vitrinus* (3 %), *Trichostrongylus probolurus* (6 %), *Moniezia* spp. (3 %); in the large intestine: *Trichuris* spp. (42 %), *Skrjabinema* spp. (3 %); in the liver: *Fasciola hepatica* (12 %); in faeces *Eimeria* spp. (82 %). Pathological changes in the liver were ascribed to be most probably caused by *L. chavezii* larva migration. The latter species, considered to be the very most pathogenic of all lama GIT nematode species, was also the species detected at the very highest intensity in the present survey, with a mean burden of 2,121 worms per animal.

PO1.63

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